PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2003-005931
(43)Date of publication of application : 10.01.2003

(51)Int.Cl. G06F 3/12
B41J 29/38

(21)Application number : 2001-187202
(22)Date of filing : 20.06.2001

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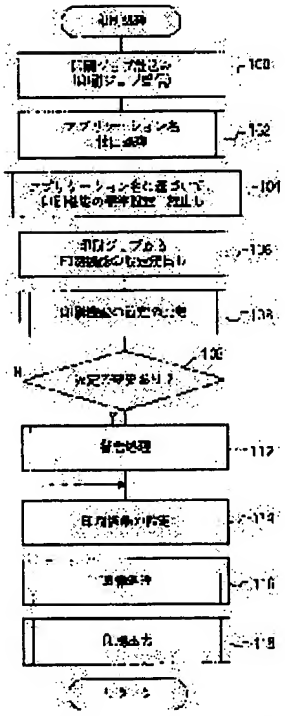
(54) PICTURE PROCESSOR

(57)Abstract:
PROBLEM TO BE SOLVED: To realize the proper setting and simplification of a printing function.
SOLUTION: At the time of receiving a printing job, a print server specifies an application name which is used by a client terminal from the plotting instruction of the printing job, and reads the standard setting of a printing function set for each application from a database file (steps 100-104). Afterwards, the standard setting is compared with the setting of the printing function of the printing job, and when they are different, warning processing is performed, and the setting of the printing function based on the standard setting is executed (steps 106-114), and the picture processing and printing processing based on the set printing function is performed (steps 112, 114). Thus, it is possible to realize the picture processing and printing processing by the proper printing function while simplifying the setting of the printing function at a client terminal.



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[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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CLAIMS

[Claim(s)]
[Claim 1] The image processing system which performs an image processing based on the drawing instruction using the application from an image-processing terminal characterized by providing the following. A storage means to memorize a setup of the printing function for every application used at the aforementioned image-processing terminal. A reading means to read in the aforementioned drawing instruction the information which specifies the aforementioned application, and a setting means to read the printing function according to the application specified based on the reading result of the aforementioned reading means from the aforementioned storage means, and to set it up.
[Claim 2] The image processing system according to claim 1 characterized by reading the information which specifies the aforementioned application from description to which the aforementioned reading means follows the predetermined code under aforementioned drawing instruction set up according to the aforementioned application.
[Claim 3] The image processing system according to claim 1 or 2 with which the aforementioned reading means is characterized by reading description by which addition is carried out [aforementioned] when description which can specify the aforementioned application is added at the aforementioned processing terminal.
[Claim 4] The image processing system according to claim 1 or 2 with which the aforementioned reading means is characterized by specifying the aforementioned application name from the predetermined variable name under aforementioned drawing instruction.
[Claim 5] The image processing system according to claim 1 or 2 characterized by the aforementioned reading means reading the aforementioned application name from the data within a predetermined variable.
[Claim 6] The image processing system of a publication [be / any of the claim 1 carry out containing a comparison means to read from description of the aforementioned drawing instruction and to compare a setup of a printing function with the standards setting of the printing function based on the aforementioned application name, and a warning means to emit the warning from which a printing function differs from the comparison result of the aforementioned comparison means as the feature to the claim 5 / they].
[Claim 7] An image processing system given in any of a claim 1 to the claim 6 characterized by having the updating means which enables updating of a setup of the aforementioned printing function memorized for the aforementioned storage means based on the demand from the aforementioned image-processing terminal, and the aforementioned printing function they are.
[Claim 8] The image processing system characterized by including an extraction means to extract the color space of a picture from the image data which is the image processing system which performs an image processing based on the drawing instruction using the application from an image-processing terminal, and was inputted from the aforementioned image-processing terminal, or a drawing instruction, and the warning means which emits warning when the aforementioned extraction means extracts the picture of predetermined color space.
[Claim 9] The image processing system according to claim 8 characterized by including a conversion means to change this picture into a predetermined color picture when the aforementioned extraction means extracts the picture of predetermined color space.
[Claim 10] The image processing system according to claim 9 with which the aforementioned conversion means is characterized by changing into the aposematic coloration based on a setup memorized by the aforementioned storage means.
[Claim 11] The image processing system according to claim 9 characterized by changing into the color picture the aforementioned conversion means is specified to be from the aforementioned image-processing terminal.
[Claim 12] An image processing system given in any of a claim 8 to the claim 11 characterized by the aforementioned extraction means extracting the picture of RGB form as color space they are.
[Claim 13] An image processing system given in any of a claim 8 to the claim 12 characterized by the aforementioned

warning means displaying a predetermined warning message on the aforementioned image-processing terminal they are.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] this invention relates to the image processing system which performs the image processing based on the image data or drawing instruction created by various applications on the image-processing terminal.
[0002]
[Description of the Prior Art] Digitization permeates also in a printing field and DTP(Desktop Publishing)-ization is progressing. This creates a page layout by performing creation of a picture, processing, edit, etc. on processors, such as a personal computer and a workstation, using application, and creation of a film based on this page layout and creation (CPT:Computer to Plate) of the lithographic plate by direct exposure of the printing version are performed. Much applications have spread also as such an object for DTP.
[0003] on the other hand, in the field of DTP, when carrying out the printout of the proof (proof) for proofreading the created page layout, printers, such as a color laser printer and a page printer, are used as a printing output unit, and the processor which creates a page layout etc. is connected by the network etc. as an image-processing terminal It enables it to create a proof easily by the drawing instruction from each image-processing terminal by this.
[0004] By the way, the image processing and printout according to the set-up printing function are possible by being able to specify various kinds of printing functions and setting up a printing function on a drawing instruction in the application used at an image-processing terminal.
[0005] Such a printing function is set up by the software for printer drivers (henceforth a "printer driver"). Therefore, in order to use various kinds of printing functions, it is necessary to prepare a printer driver for every image-processing terminal.
[0006] On the other hand, in JP,11-15610,A, then, the plication and printer driver which are used at the client terminal are prepared in a print server or a middle server, application is started on this server, and it is made to set up a printing function.
[0007] Moreover, in JP,8-147118,A or JP,2000-353081,A, the database file which stored a setup for every application in the image-processing terminal is prepared, and it is made to set up the printing function for every application with reference to this database file.
[0008] However, in any case, it is necessary to perform setting operation of a complicated printing function on an image-processing terminal. Moreover, although a setup of the printing function which printing jobs differ in many cases and is inevitably needed with application will also change, if a setting mistake and a setting failure of a printing function arise, the problem that a desired printout etc. is no longer obtained will arise.
[0009] In spite of color space's being RGB form, being CMYK form and intermingling these especially depending on application, the image data unified into one of color spaces may be required.
[0010]
[Problem(s) to be Solved by the Invention] It aims at proposing the image processing system with which this invention is made in view of the above-mentioned fact, and a setup of the printing function for every application etc. becomes easy. Moreover, this invention aims at proposing exactly the image processing system which can be judged for the existence of the picture currently formed by specific color space etc. as a printing function to the color space of a picture.
[0011]
[Means for Solving the Problem] In order to attain one of the above-mentioned purposes, this invention is an image processing system which performs an image processing based on the drawing instruction which used the application from an image-processing terminal. A storage means to memorize a setup of the printing function for every application

used at the aforementioned image-processing terminal, It is characterized by including a reading means to read in the aforementioned drawing instruction the information which specifies the aforementioned application, and a setting means to read the printing function according to the application specified based on the reading result of the aforementioned reading means from the aforementioned storage means, and to set it up.

[0012] According to this invention, it memorizes for a storage means by making into standards setting a setup of the printing function for every application used at an image-processing terminal.

[0013] A reading means specifies the application name which created a drawing instruction or image data from the drawing instruction inputted from an image-processing terminal. From the specified application name, a setting means reads the standards setting for every printing function from a storage means, and sets it up.

[0014] Thereby, when the image processing based on the printing function which set up the printing function exactly and set up can be performed and a printout is carried out irrespective of a setup of the printing function on a drawing instruction, the printed matter in which the exact picture was formed is obtained.

[0015] When the information specified in the aforementioned application may read from description to which the aforementioned reading means follows the predetermined code under aforementioned drawing instruction set up according to the aforementioned application in the image processing system of such this invention and description which can specify the aforementioned application is added at the aforementioned processing terminal, description by which addition of the aforementioned reading means is carried out [aforementioned] may read.

[0016] Moreover, in this invention, the aforementioned reading means may specify the aforementioned application name from the predetermined variable name under aforementioned drawing instruction, and the aforementioned reading means may read the aforementioned application name from the data within a predetermined variable.

[0017] Furthermore, a comparison means to read from description of the aforementioned drawing instruction and to compare a setup of a printing function with the standards setting of the printing function based on the aforementioned application name by this invention, The warning means which emits the warning from which a printing function differs from the comparison result of the aforementioned comparison means, It is more desirable to have the updating means which enables updating of a setup of the aforementioned printing function which may be a ****** thing and is memorized for the aforementioned storage means based on the demand from the aforementioned image-processing terminal, and the aforementioned printing function.

[0018] The image processing system of this invention is an image processing system which performs an image processing based on the drawing instruction which used the application from an image-processing terminal, and is characterized by including an extraction means to extract the color space of a picture from the image data inputted from the aforementioned image-processing terminal, or a drawing instruction, and the warning means which emits warning when the aforementioned extraction means extracts the picture of predetermined color space.

[0019] In such this invention, when the aforementioned extraction means extracts the picture of predetermined color space, a conversion means to change this picture into a predetermined color picture can be included, and it can clarify on the printed matter which carries out the printout of the extracted color space from an image data top or a printer by this.

[0020] You may change into the aposematic coloration based on a setup memorized by the aforementioned storage means as such a conversion means, and may change into the color picture specified from the aforementioned image-processing terminal.

[0021] Moreover, as an extraction means, what extracts the picture of RGB form as color space is applicable, for example.

[0022] What furthermore displays a predetermined warning message on the aforementioned image-processing terminal as a warning means is applicable.

[0023] Moreover, if the extracted picture becomes clear on the printed matter which carries out a printout, using printout equipments, such as not only the display of a warning message but a printer, as a warning means, the arbitrary warning methods can be used.

[0024]

[Embodiments of the Invention] The form of operation of this invention is explained referring to a drawing below. The outline composition of the printing system 10 applied to the form of this operation is shown in drawing 1 .

[0025] The image processing system 36 is formed in this printing system 10 at the print server 12 which added and constituted the PCI board which equipped the personal computer (PC) of general composition with the predetermined function. Moreover, the printer 14 is connected to the print server 12 as printout equipment.

[0026] Furthermore, a personal computer, a workstation, etc. consider as the client terminal 16, and are connected to the print server 12. This client terminal 16 is used for DTP which performs image processings, such as creation of a picture, processing, and edit, using various applications. An image processing system 12 performs printing processing

based on the drawing instruction from the client terminal 16 of ******.
[0027] In addition, as a printing system 10, two or more sets of printers 14 may be connected to a print server 12, and two or more client terminals 16 may be connected to a print server 12 through networks, such as LAN and WAN.
[0028] Moreover, although the gestalt of this operation prepares and explains the image processing system 36 which applied this invention to a print server 12, as long as it performs an image processing based on the image data and drawing instruction which are inputted not only from this but from the client terminal 16, you may prepare this invention in various kinds of servers arranged in a network, for example. That is, the image processing system of this invention is applicable to arbitrary composition, if an image processing is performed based on image data and a drawing instruction.
[0029] External memory, such as ROM, RAM, and HD, is prepared, and the print server 12 in which an image processing system 36 is formed operates by the operation rating program memorized to ROM, and has the general composition of performing processing to a system chart form, an image, a character, or a table, based on the program memorized by ROM or external memory.
[0030] Such a print server 12 is equipped with display devices, such as input devices, such as a keyboard and a mouse (all are illustration abbreviations), and a CRT display. Moreover, also in a print server 12, the printing processing to the display image of a display device is possible.
[0031] That is, the bidirectional interface 18 and the print controllers 20, such as Ethernet (registered trademark) (Ethernet (registered trademark)), were formed in the print server 12, and the print controller 20 has connected with a printer 14 through the bidirectional interface 18.
[0032] The image-processing section 24 is formed in the image processing system 36 in a print server 12. This image-processing section 24 generates raster data based on the image data and drawing instruction which are inputted as a printing job. The printed matter based on the printing job is obtained by this raster data's being controlled by the print controller 20, and outputting it to a printer 14.
[0033] On the other hand, a network interface 22 is formed in a print server 12, and a drawing instruction is inputted into it with an image file from the client terminal 16 through this network interface 22. The print server 12 has the general composition of performing printing processing based on this drawing instruction.
[0034] The client terminal 16 performs image processings, such as creation of a picture, processing, and edit, using various kinds of DTP applications, such as Photoshop, Illustrator (all are the tradenames of U.S. Adobe Systems), and QuarkXPress (tradename of the U.S. quark company). In addition, below, such applications are explained as an example as what creates the page layout of PostScript form etc.
[0035] The page layout created with this client terminal 16 is used for creation of the film used for exposure of the printing version by the color photoelectric-process system (CEPS), and exposure of the printing version in direct platemaking (CPT). Printing processing is made by the lithographic plate created based on this page layout.
[0036] In a color photoelectric-process system and a direct platemaking system, the proof (it considers as a "proof" below) called color proof etc. is created in advance of the creation of a lithographic plate based on the page layout created with the client terminal 16.
[0037] When performing this proof, the printing job which contains a page layout with a drawing instruction from the client terminal 16 is outputted to a print server 12. Thereby, a print server 12 creates the proof based on the printing job.
[0038] Color space may be YMCK form, and the page layout inputted into a print server 12 from the client terminal 16 may be RBG form, and these may be intermingled further. In the image-processing section 24, from this printing job, the raster data of each color of C, M, Y, and K are generated, for example, and it outputs to a printer 14.
[0039] By the way, the application name extraction section 26 and the printing functional setting section 28 are formed in the image processing system 36. The application name extraction section 26 will read in this printing job the application name which created the page layout, if the printing job transmitted from the client terminal 16 is received.
[0040] The client terminal 16 applied to the form of this operation outputs a printing job, using a PostScript driver as an example. The application name extraction section 26 judges the application name which created the page layout by reading the application name currently recorded on the comment of this PostScript.
[0041] That is, as shown in drawing 2 (A) and drawing 2 (B), in code of PostScript, the comment is written in the degree of code %%. Here, the application name extraction section 26 will read the character string following this code %%, if code %% is extracted. For example, at PostScript, since the application name is written in "%%Creator:" as shown in drawing 2 (A), in the application name extraction section 26, an application name is read from the character string following "%%Creator:."
[0042] Moreover, it is "%%BeginProcSet as shown in drawing 2 (B). When the application name is written in :", the character string following this code %% is read.

[0043] On the other hand, the file management section 32 which manages the database file stored in external memory 30, such as HD, and this external memory 30 is formed in the print server 12. The standards setting of the printing function for every application is stored in external memory 30 as a database file.
[0044] In the printing functional setting section 28, the standards setting of a printing function to the printing function stored in external memory 30 is read from the application name extracted in the application name extraction section 26, and a printing function is set up.
[0045] In the image-processing section 24, an image processing is performed based on a setup of the printing functional setting section 28, and the raster data which created and created raster data are outputted to a printer 14.
[0046] According to the demand from the client terminal 16, renewal of the printing function in a database file, an addition, and setting change of a printing function are possible for the file management section 32. Moreover, renewal of the printing function in the database file on a print server 12, an addition, and setting change (change of standards setting) of a printing function are possible for the file management section 32.
[0047] As a printing function with which the image processing system 36 or the print server 12 is equipped "RGB picture warning", "K substitution of RGB black", "K overprint", "It is version composition by hairline warning (thin-line warning)" and "", a "RGB color correction", It adds to various kinds of warning functions and image-processing functions to processing pictures, such as a "CMYK color correction." Various kinds of well-known processing facilities based on applications, such as special printing functions, such as double-sided printing and Nup printing, a staple, and finishing functions, such as punching, the performance of a printer 14, etc. are mentioned conventionally.
[0048] In addition, although a setup to these printing functions is stored in a database file, below, "RGB picture warning" and "K substitution of RGB black" are explained to an example as a printing function.
[0049] When the picture of whether the picture (it considers as a "RGB picture" below) of RGB form has color space in a page layout and CMYK form and the picture of RGB form are intermingled, "RGB picture warning" extracts the picture of RGB form, and it performs notice or warning so that it may become clear that this picture is RGB form.
[0050] Generally, in printing using the lithographic plate, a color picture is decomposed into each color component of C (cyanogen), M (Magenta), Y (yellow), and K (black), the lithographic plate in which the picture of each color component was formed is created and piled up, and printing is performed.
[0051] Although creation of the page layout of CMYK form is possible for the application applied to DTP on the other hand although there are some which create the layout of RGB form etc. in application, there are some which can stick a RGB picture into this page layout.
[0052] If a RGB picture is included in a page layout when creating the lithographic plate for printing, it will appear in the picture of each color component of CMYK, without decomposing this picture into each color of CMYK. For this reason, if it prints using the lithographic plate created from the page layout including a RGB picture, on a color picture, a RGB picture will turn into a "black" picture and will appear.
[0053] Therefore, when performing a proof depending on application, there is a thing which wants to clarify existence of a RGB picture. From here, "RGB picture warning" judges whether the RGB picture is included in the page layout, and when the RGB picture is included, it emits warning.
[0054] The display-control section 34 is formed in the print server 12. This display-control section 34 will display the dialog for warning on the monitor which the client terminal 16 does not illustrate, if a RGB picture is extracted from a page layout. It enables it to check RGB picture warning by this at the client terminal 16 which inputted the printing job.

[0055] "K substitution of RGB black" is replaced by K color of CMYK form to a black picture by the RGB picture. When a printout is carried out by the printer 14, it is made for the black of RGB form to become clear by this.
[0056] "K overprint" is a function which outputs the character of 100% of black, and a graphic by overprint, and it performs image transformation so that the character of 100% of black and a graphic may appear vividly on printed matter by this. Although a remarkable effect is acquired to the application which creates the image data of RGB form that this function creates the image data of RGB form, such as Word, an effect does not show up in applications, such as QuarkXPress which creates the image data of CMYK form.
[0057] Version composition" is a function which compounds the image data by which a division output is carried out as a monochrome picture for every color version (the C-th edition, the M-th edition, the Y-th edition, and the K-th edition), and is outputted as a color picture with application by ". Since applying the "part version composition" function with the application to which Word outputs the image data of RGB form, such as Excel, since there is such no decomposition function will add an excessive overhead, it is not desirable.
[0058] The picture is clarified and "hairline warning" warns of it, when there is a thin line below predetermined. Namely, the resolution of the printed matter using the lithographic plate serves as 1200dpi - 2400dpi, and the output of the picture of this resolution is possible for application.

[0059] On the other hand, since resolution is as low as about 600 dpi, it is made for a blur etc. not to produce a picture smaller than this on printed matter by changing into this resolution by the printer 14. However, exact proofreading will become impossible if the line drawing image which a blur, disappearance, etc. may produce is outputted according to the resolution of a printer 14 on the printed matter using the lithographic plate. When such, the proper judgment to a narrow line drawing image is attained by using a "hairline warning" function.
[0060] The "special-feature color corrections" is C, M and Y which are used by printing, and a function which carries out the simulation of the color of special-feature ink other than K, and has some which cannot be used with application. That is, in QuarkXPress which generates the image data of CMYK form, although this function can be used, since Word cannot use this function in Excel, when this function is set up, an excessive overhead will be added.
[0061] Moreover, a "RGB color correction" and a "CMYK color correction" amend each color so that the simulation of the color when performing the overprint of each color of CMYK using a lithographic plate can be carried out correctly.

[0062] The database file stored in external memory 30 is memorized as standards setting of each printing function on the printing system 10 with the printing function for every application. An example of the standards setting of a printing function and a printing function is shown in Table 1.
[0063]
[Table 1]

アプリケーション

		QurkXPress	PhotoShop	Word	Excel
印刷機能	RGB画像警告	ON	OFF	OFF	OFF
	RGB黒のK置換	ジョブの設定	ON	ON	ON
	Kオーバープリント	OFF	OFF	ON	ON
	ヘアライン警告	消去	消去	OFF	OFF
	分版合成	ジョブの設定	ジョブの設定	OFF	OFF
	RGB色補正	OFF	ジョブの設定	ON	ON
	CMYK色補正	ON	ジョブの設定	OFF	OFF
	特色色補正	ジョブの設定	ジョブの設定	OFF	OFF

[0064] In the image processing system 36, Word is divided into the application which can create the image data of which form (color space), such as application which creates the image data of CMYK form, such as application which creates the image data of RGB form, such as Excel, and QuarkXPress, and PhotoShop, and makes standards setting further a standard and desirable setup according to the main purpose of using each application.
[0065] In addition, "elimination" by hairline warning shall be a setup which performs transform processing to the picture which corresponds so that the extracted thin line may be eliminated, and "a job setup" shall use a setup on the drawing instruction outputted from the client terminal 16.
[0066] Moreover, Table 1 does not show an example of a part of [to application and application] standards setting of a printing function, and does not limit the printing function and standards setting of this invention.
[0067] The page layout created by PhotoShop as for example, a printing job is inputted by this, and when ON and "K substitution of RGB black" turn [the inputted "RGB picture warning" of a printing job] off, both "RGB picture warning" and "K substitution of RGB black" are changed from the database file of external memory 30 at OFF.
[0068] Moreover, when the page layout created by QuarkXPress as a printing job is inputted and OFF and "K substitution of RGB black" turn [the inputted "RGB picture warning" of a printing job] on, from the database file of external memory 30, "RGB picture warning" is changed into ON and a setup of a printing job is applied for "K substitution of RGB black" as OFF.
[0069] On the other hand, in the image-processing section 26, when creating raster data from the printing job inputted from the client terminal 16, processing based on a setup of a printing function is performed. If the "RGB picture warning" function is set as ON, when it judges whether the RGB picture is included in the page layout and the RGB picture is included at this time, the dialog of RGB picture warning is displayed on the monitor of the client terminal 16.

[0070] Moreover, in the image-processing section 24, if black is extracted in RGB form when "K substitution of RGB black" is set up, when decomposing this black into CMYK form, it will change so that it may become K color.

[0071] Below, the outline of processing by the print server 12 is explained as an operation of the form of this operation. The flow of processing by the print server 12 to a printing job is shown in drawing 3 . It performs by inputting a printing job from the client terminal 16, and a printing job is read at the first step 100.
[0072] If a printing job is read, at the following step 102, the application name which created the page layout inputted as a printing job will be extracted. If a page layout is PostScript form, extraction of this application name will read and judge the character string applicable to an application name from the comment currently written in code %%, as shown in drawing 2 (A) or drawing 2 (B).
[0073] At the following step 104, the standards setting of a printing function is read from the database file of external memory 30 based on the extracted application name. Moreover, at Step 106, a setup of the printing function on a printing job is read from the drawing instruction of a printing job, Step 108 compares a setup of a printing function, and it checks whether there is any setting change (Step 110).
[0074] When there is change by this between the standards setting stored in a data file, and a setup on the drawing instruction of a printing job, an affirmation judging is carried out at Step 110, and it shifts to Step 112. At this step 112, it notifies of changing a setup of a printing function into standards setting by displaying as a warning message on the monitor of the client terminal 16.
[0075] Based on the standards setting of the printing function for every application stored in the data file of external memory 30, a printing function is set up next at Step 114. At this time, a setup of a printing job is used only to the printing function specified to be "a job setup."
[0076] In addition, when setting change of a printing function is inputted from the client terminal 16 based on the warning message displayed on the monitor of the client terminal 16, you may make it set up a printing function based on an inputted setup. Moreover, a setup of the printing function in which it was inputted may store in a database file by external memory 30's as standards setting, and the change/renewal of a setup of a printing function of it may be attained.
[0077] After ending a setup of the printing function based on the database file stored in external memory 30, it shifts to Step 116 and an image processing is performed. At this time, processing based on a setup of a printing function is performed, raster data are created, and printing processing is performed by outputting raster data to a printer 14 (Step 118).
[0078] Thus, since a detailed setup of a printing job becomes unnecessary at the client terminal 16 by memorizing a setup of the printing function made into the standard on the printing system 10 to external memory 30 as a database file, the request of a printing job becomes very easy. Moreover, since it is necessary to set up neither specification of application, nor the printing function according to application at the client terminal 16 in order to set up printing ****** according to application by extracting an application name from a printing job, request operation of the printing job on the client terminal 16 becomes easy further.
[0079] Moreover, since the printing function according to the application which created the page layout can be exactly set up when a printing function is accidentally set up when requesting a printing job, or you have forgotten a setup, it can prevent certainly that creation mistake of a proof, and the image processing based on a mistaken setup and printing processing will be performed.
[0080] Furthermore, the file management section 32 is formed in the print server 12, and through this file management section 32, since data processing to database files, such as an addition of the printing function for every application, updating, and change of a setup, is possible, management of the database file on a print server 12 becomes easy from the client terminal 16.
[0081] In addition, although the application name was extracted from this printing job for the example, extraction of the application name in this invention does not restrict the printing job described in PostScript form to this here, either.
[0082] For example, there are some which include the program which stores the variable based on the application name in the code to output in application, and there are some whose specification of an application name is attained by extracting this variable in such application.
[0083] You may make it extract the variable which specifies an application name from the code which application outputs from here. Moreover, when specification of an application name is possible, the data within a variable may be read from the data within a variable, and you may specify an application name.
[0084] Furthermore, there are some which have the feature in the drawing code to output like making size of the whole drawing code small by there being some from which the real whereabouts method of a drawing code differs depending on application, and redefining the high drawing instruction of operating frequency to a short name. Specification of the application name from a drawing code is attained by grasping and database-izing the feature of the drawing code to output to such application.
[0085] Moreover, a setup of the printing function prepared in the client terminal 16 is customized, description which

can specify an application name is added, and you may make it specify an application name from this description. Also in this case, the application name in a print server 12 can be specified easily, without performing key strokes, such as an input of an application name, and specification, when outputting a printing job at the client terminal 16.
[0086] Thus, extraction of an application name can apply arbitrary composition.
[0087] Next, the outline of processing over "RGB picture warning" is explained along with drawing 4 as one of the printing functions. in addition -- as basic color space [warning / "RGB picture warning" / this / image data / of CMYK form] -- the picture of RGB form etc. -- like -- foundations -- it is considering as an example of picture extraction of this color space and different color space into color space
[0088] This flow chart is the first step 120, and reads the standards setting of the "RGB picture warning" based on the application name from a database file. At the following step 122, it checks whether "RGB picture warning" is turned on from the read standards setting, and a setup of "RGB picture warning" is turned ON by carrying out an affirmation judging (Step 124).
[0089] In addition, when "RGB picture warning" is set as OFF, a negative judging is carried out at Step 122, and processing of "RGB picture warning" is ended for processing. Moreover, when it is a setup which is on the drawing instruction of a printing job and is different from standards setting, as described above, notifying of setting change is desirable by performing a warning process.
[0090] If "RGB picture warning" is set as ON, at Step 126, a RGB picture will be extracted from the page layout processed in the image-processing section 24. Extraction of this RGB picture can apply well-known arbitrary methods, such as judging from description of PostScript etc., conventionally.
[0091] The existence of a RGB picture is checked at the following step 128. Thereby, if a RGB picture is extracted from a page layout, an affirmation judging will be carried out at Step 128, and it will shift to Step 130. At this step 130, a warning message is transmitted to the client terminal 16 which requested the printing job containing the page layout which extracted the RGB picture.
[0092] Thereby, the dialog which warns of a RGB picture being in a page layout is displayed on the client terminal 16. As such a dialog, as shown in drawing 5 , it can display, for example. This dialog is eliminable by clicking for example, a "check" button. In addition, if transfer of an exact message is attained as a dialog displayed on the monitor of the client terminal 16, not only this but arbitrary composition is applicable.
[0093] On the other hand, by RGB picture warning, you may perform an image processing so that the extracted picture may become clear. Here, an example of transform processing of the warning picture in "RGB picture warning" is explained, referring to drawing 6 . In addition, although transform processing in "RGB picture warning" may be stored in the database file of external memory 30 as standards setting, below, it is explained as what is performed based on the specification inputted from the client terminal 16.
[0094] This flow chart is performed along with processing of a printing job, reads the standards setting of "RGB picture warning" from a database file at the first step 160, is Step 162, and checks whether this printing function is set up. At this time, when setting up "RGB picture warning", an affirmation judging is carried out at Step 162, it shifts to Step 164, and a setup of "RGB picture warning" is turned on.
[0095] Then, at Step 166, extraction processing of a RGB picture is performed and it checks whether the RGB picture has been carried out in Step 168.
[0096] Here, if a RGB picture is in the printing job of CMYK form, an affirmation judging will be carried out at Step 168, and it will shift to Step 170. The dialog for the warning of a RGB picture is expressed as this step 170 on the monitor of the client terminal 16. As shown, for example in drawing 7 , while notifying of the RGB picture being included as this dialog, the specification of processing to the extracted RGB picture is required.
[0097] The processing to the RGB picture at this time requires specification of whether to save a printing job, when stopping [whether the printing processing which is processing to a printing job is stopped, and] printing processing.
[0098] Moreover, when continuing printing processing, the selection of processing to a RGB picture is required. Unconverted, aposematic-coloration substitution, etc. can specify the processing to the RGB picture at this time. Moreover, when specifying aposematic-coloration substitution, selection of whether the color applies the aposematic coloration (for example, Magenta) set up beforehand or to perform color specification is possible. In addition to these, you may be made to perform a preview display.
[0099] If specification of processing is inputted along with the display of a dialog here, with the flow chart of drawing 6 , specification of processing will be read at Step 172.
[0100] Then, at Step 174, when it checks whether the preview display is chosen and the preview display is chosen, an affirmation judging is carried out at this step 174, it shifts to Step 176, and the picture for displaying the print preview of the page layout which has a RGB picture in the monitor of the client terminal 16 is created. Moreover, the created print preview is expressed as Step 178 on the monitor of the client terminal 16. In addition, at the time of ** which

displayed the print preview, in order to require specification of processing, it shifts to Step 170.
[0101] This print preview displays that the RGB picture on a page layout becomes clear at least. When specification of aposematic-coloration conversion or specification color conversion is made to the RGB picture at this time, you may make it display the changed picture.
[0102] While clear recognition of the RGB picture on a page layout is attained by displaying this print preview, creation of the proof which enables exact recognition of a RGB picture is attained by changing and displaying a RGB picture.
[0103] After the time of there being no display demand of a print preview and the display of a print preview are completed, a negative judging is carried out at Step 174, and it shifts to Step 180. It checks whether the printing processing to the corresponding printing job is stopped by this step 180.
[0104] It checks whether if specified that it stops the printing processing of processing to a printing job, it shifts to Step 182 and a printing job is saved here. Thereby, when preservation of a printing job is specified, an affirmation judging is carried out at Step 182, it shifts to Step 184, and the printing job inputted is saved at the external memory which is not illustrated in a print server 12, and the processing to this printing job is once ended.
[0105] thus -- since the printing job saved at external memory can be used for the data of a non-correcting portion, or various kinds of setup when correcting the page layout of this printing job partially and requesting a printing job again by saving a printing job -- for example -- many -- when a part of page layout of several sheets is corrected, shortening of the transmission time of data etc. can be aimed at
[0106] On the other hand, when preservation of a printing job is not specified, a negative judging is carried out at Step 182, it shifts to Step 186, the received printing job is deleted, and the processing to this printing job is ended.
[0107] On the other hand, when continuing a printing job, a negative judging is carried out at Step 180, and it shifts to Step 188. At this step 188, it checks whether it is specified as predetermined aposematic coloration, or color specification is carried out.
[0108] Here, when specified as the aposematic coloration set up by the print server 12, a negative judging is carried out at Step 188, and it shifts to Step 190. A RGB picture is changed into aposematic coloration (Magenta) at this step 190.
[0109] Moreover, when the color which changes a RGB picture is specified, image transformation is performed so that an affirmation judging is carried out at Step 188, it may shift to Step 192 and the printout of the RGB picture currently extracted may be carried out by the specified color.
[0110] Thereby, on the printed matter outputted from a printer 14, a RGB picture becomes clear. Therefore, when creating a proof, the printout of the proof whose proper proofreading is attained can be carried out.
[0111] In addition, although the form of this operation explained that a RGB picture was changed into the picture of aposematic coloration, you may be made to carry out the printout of the warning message which clarifies that it is a RGB picture on the printed matter outputted not only from this but from the printer 14. Moreover, by enclosing the circumference of a RGB picture with the border line of predetermined width of face and entering predetermined, you may set up so that the warning page which may be made to clarify a RGB picture and clarifies RGB on still more nearly another printed matter may be printed.
[0112] In addition, the form of this operation explained above does not limit this invention. For example, with the form of this operation, although creation of a proof was explained to the example, this invention is applicable to various printings using the printing function prepared not only in this but in various applications.
[0113]
[Effect of the Invention] As explained above, an application name is specified from the drawing instruction which an image-processing terminal outputs using application according to this invention, and based on this application name, a printing function is set up using the standards setting memorized for the storage means. Thereby, in order not to trouble to a setup of various kinds of printing functions, the outstanding effect that drawing processing of a proof etc. becomes very easy is acquired.
[0114] Moreover, in this invention, judgment becomes possible exactly with a display and the output from printout equipment of a monitor about the existence of the combination of the picture which does not become clear by extracting and warning of the existence of color space which is different like the picture of CMYK form, and the picture of RGB form as a printing function.

[Translation done.]

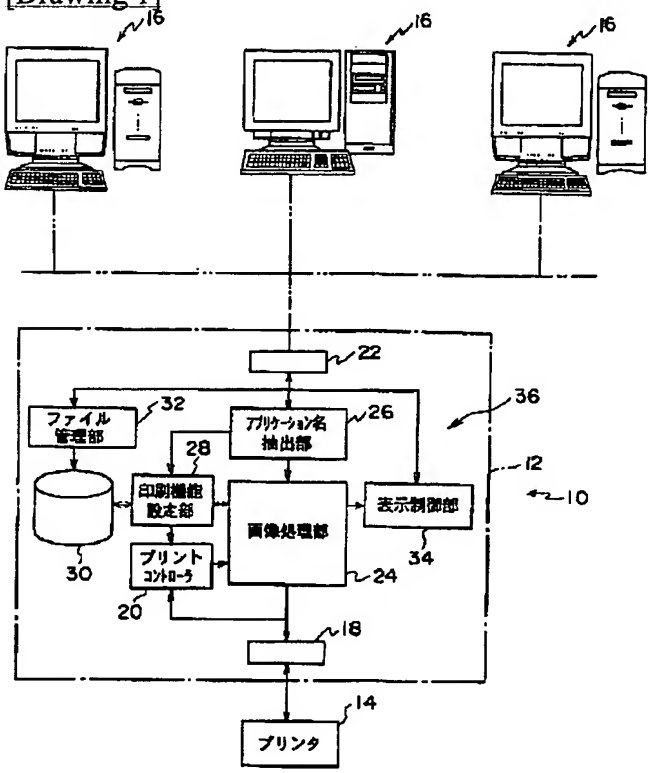
* NOTICES *

Japan Patent Office is not responsible for any damages caused by the us of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

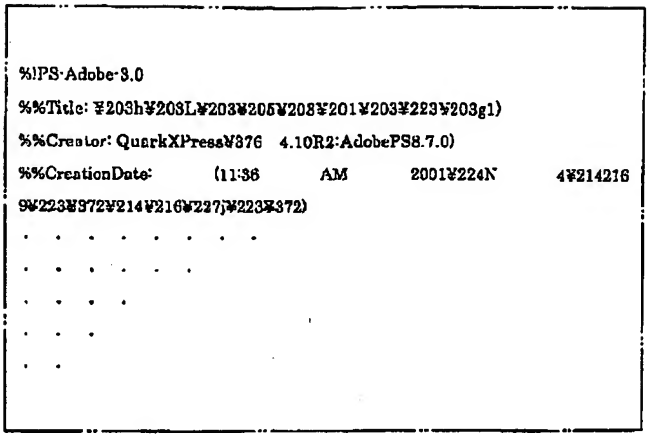
DRAWINGS

[Drawing 1]

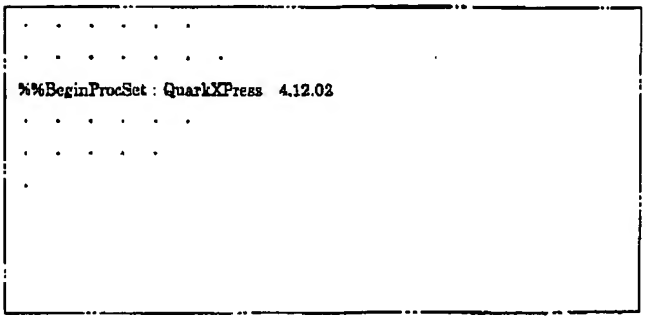


[Drawing 2]

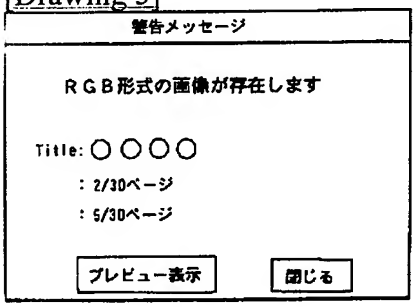
(A)



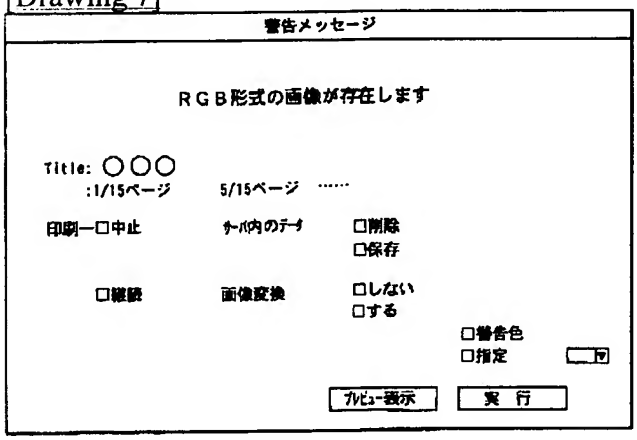
(B)



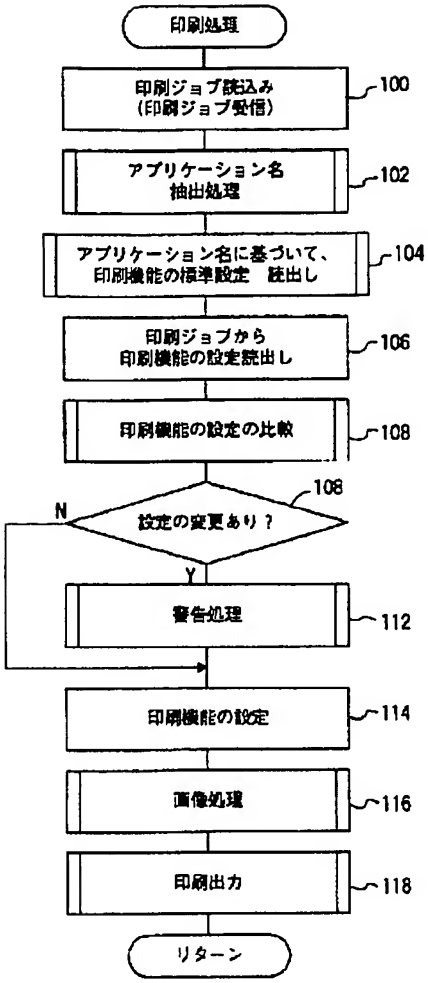
[Drawing 5]



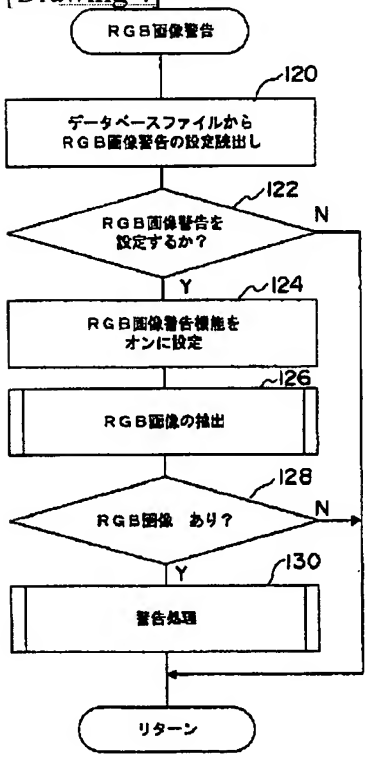
[Drawing 7]



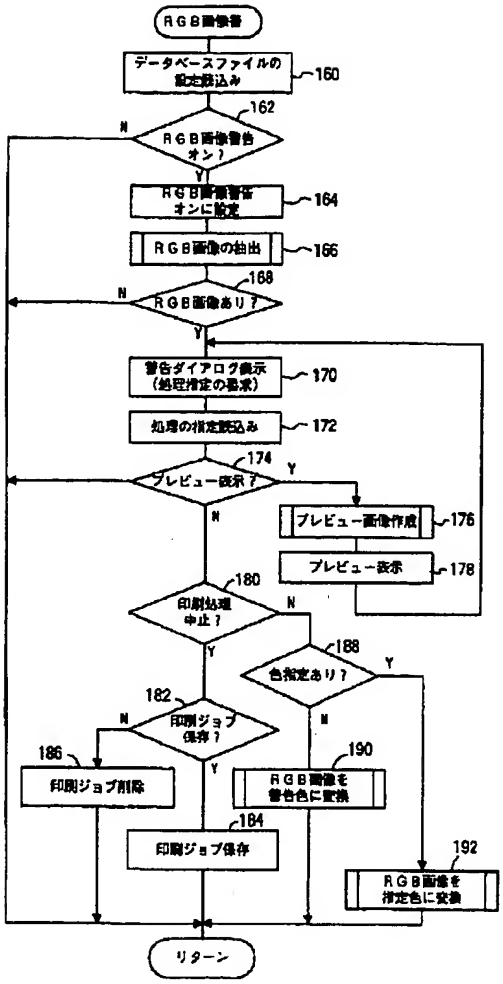
[Drawing 3]



[Drawing 4]



[Drawing 6]



[Translation done.]